

ZIRCON U-PB SHRIMP DATING OF NEOARCHEAN MAGMATISM IN THE SOUTHWESTERN PART OF THE CARAJÁS PROVINCE (EASTERN AMAZONIAN CRATON, BRAZIL)

1LAFON J.M., 1MACAMBIRA M.J.B. and 2PIDGEON R.T. 1Pará-Iso Universidade Federal do Pará, Belém. Brazil. 2School of Applied Geology, Curtin University of Technology, Perth, Australia.

The southwestern part of the Carajás Metallogenic Province (Tucumã region) has been divided in two distinct Archean tectonic domains: The granite-greenstone terrains and the Itacaiunas shear belt. U-Pb SHRIMP dating on zircons from felsic metavolcanics of the greenstone sequences indicates an age of 2908 ± 16 Ma, in good agreement with U-Pb and Pb-Pb zircon ages previously obtained on metavolcanics and granitoids of the same terrain (2.87-3.0 Ga). Zircons from a gabbro of the Serra da Onça Mafic-Ultramafic Complex, within the Itacaiunas shear belt, gave an U-Pb SHRIMP age of 2766 ± 6 Ma. This result indicates that this complex is related with the extensional episode responsible for the Luanga mafic-ultramafic intrusion (2763 ± 6 Ma) and the deposition of supracrustal sequences (2757 ± 2 Ma), also in the Itacaiunas belt. This episode is followed by a ductile shear regime and crustal anatexis dated at 2729 ± 8 Ma by the emplacement of a syn-kinematic granite. These episodes have not been recognized in the granite-greenstone terrains which behaved as a stable crustal block during the development of the Itacaiunas shear belt. These results provide new geochronological constraints for the evolution of the Carajás Province and contribute to unravel the relationships between the granite-greenstone terrains and the Itacaiunas shear belt.